U. S. DEPARTMENT OF AGRICULTURE
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Release - July 5, 1920.

UNCLE SAM'S HIRED MEN WHO SERVE YOU

Meet Dr. John R. Mohler, Chief of the Bureau of Animal Industry--He Is Waving at You.

By Dixon Merritt

This is the first of a series of articles this publication is running, in cooperation with the U. S. Department of Agriculture, to acquaint our readers with the type of men who are making possible the wonderful service the department is rendering and stands ready to render our readers, that those not now availing themselves of these services may do so. ---------- Editor

A wise man a long time ago said that a man is known by the company he keeps--but John R. Mohler is known, half a mile off, by the way he waves his hand. He waves to everybody he ever saw before, and he has seen a great many people during the 23 years he has been with the United States Department of Agriculture as chief, assistant chief, head of the pathological division and one thing and another in the Bureau of Animal Industry. The people who know him best say he never forgot a face or a name. Considering the number of people he has met under a multitude of circumstances, that seems improbable, but--well, listen to this:

Mohler recently visited one of the cities where he was on duty a good many years ago as a meat inspector. He took a stroll through the packing houses. Every now and then that genial wave of the hand would sweep out to some man on the killing floor, frequently a negro. His escort noticed it and asked him if he would like to shake hands with the men. He said he would. He did shake hands with them--and every man who was there in his day he called by name.

Dr. Mohler looks like a man who eats three square meals a day of wholesome food and sleeps soundly on a good bed, untroubled by a cloudy conscience. He is a big man, physically as well as otherwise. He has a big head which seems to be well filled with scientific knowledge and human understanding.

The job he fills and the way he fills it require that kind of man. The Bureau of Animal Industry is the biggest enterprise of its kind in the world. It employs 4,400 people, about 500 of them in Washington and the rest scattered all over the United States. Among them, they are the final authority on nearly everything pertaining to live stock. Three of them discovered the hog cholera serum that has reduced losses from that disease enough to save the farmers of the United States about $40,000,000 a year--a discovery by means of which any farmer can protect his hogs against cholera. A member of this bureau was responsible for the discovery of insect causation of disease--the discovery that made the Panama Canal possible by giving to science the secret of eliminating yellow fever from the Canal Zone. Of course, the B. A. I. men were not thinking about that when they made the discovery. They were trying to find out how splenetic

fever was transmitted from Texas cattle to northern cattle, though the two never got near enough together to see each other. They found out that the Texas cattle carried a species of tick, that these ticks were frequently scattered over pastures, picked up by the northern cattle and transmitted the disease to them.

As a young man in the bureau, Dr. Mohler was on duty as an inspector along the Mexican border and learned a great deal about the cattle tick. He came back to Washington strong in the belief that the cattle tick could be eradicated from the Southern States. The experiment was tried--and it has succeeded. The tick has been eradicated from considerably more than half of the originally infested territory, and the slaughter of the last tick is scheduled for 1923. It will represent 17 years' work when it is completed--and already it is saving the country 40 millions of dollars every year. This has all been accomplished by driving the cattle, every so often, through a vat filled with an arsenic solution which kills the tick on the animal's hide.

The men under Dr. Mohler's charge inspect all of the meat that goes into interstate commerce in the United States, as well as all meat that comes into this country and all that goes out. In every packing house whose products cross a State line, a veterinarian or inspector of the Bureau of Animal Industry inspects the animals before they are slaughtered. If there is anything to show that they are unsound, they can not be slaughtered for human consumption. Those that appear to be sound are slaughtered--and every piece of the carcass is gone over carefully by other inspectors. If there is anything wrong, it is condemned. When a piece

of meat or a can of meat product is stamped "U. S. Inspected and Passed" the consumer is assured of meat from a healthy animal and killed, cured, and canned under sanitary conditions. Dr. Mohler in his work up through the bureau was connected with this branch of the work for some time.

In all of the kinds of things he was tried at Mohler made good. He knew how to apply scientific knowledge to practical affairs. But he also showed a fondness for research, for digging deeper into a thing than anybody had gone before. That led to his being brought back to Washington in the pathological division of the bureau. He stayed there for 15 years, the greater part of the time as chief of the division. The pathological division investigates diseases of animals--what causes them and how they can be cured. Its work is constantly helping farmers to save valuable animals, and once in a while it saves human life. For instance, this division investigated forage poisoning in horses, discovered that it is due to a bacillus that develops in mouldy hay and such things, and prepared a serum that protects against it. Then the discovery was made that botulinus poison in canned foods, from which a good many human beings have died recently, is caused by the same bacillus--and the serum discovered by the Bureau of Animal Industry has been called into use for human beings and has saved some of the victims.

I said a while ago that Mohler looks like a man who sleeps soundly, but very few men have lost more sleep in the line of duty than he has. Each of the three times when foot-and-mouth disease has got into the United States, Mohler was caught in the swirl and rush of the thing and worked night and day until he knew that the disease was driven back across the Atlantic. He confirmed the diagnosis in the outbreak of 1902. When the next one came

in 1908 he did a brilliant piece of scientific detective work in tracing the source of the infection to a contaminated strain of smallpox vaccine. He was directly in charge of the eradication work during the outbreak of 1914-15.

Another thing that the Bureau of Animal Industry people do is to inspect all live animals that come into the United States from foreign countries. Most of them are all right, of course, but now and then some of them are very much wrong. Several years ago some Brahman cattle--the holy cattle of the East--were brought to our ports by Texas ranchmen, because they are not bothered by the cattle ticks. The ranchmen were very anxious to get them to their ranches, and they had the support of high officials of the Government in the effort. The cattle were to be released next day--when this same Mohler we have been talking about discovered that some of them had surra, a very terrible cattle scourge from which this country is free. The holy cattle found infected were not released--and the country was saved from a disease that might have done more damage than the cattle tick. Even Kedron, General Pershing's war horse, was denied participation in the New York parade because he had not passed quarantine. The bureau was asked to waive the restrictions in order that Kedron might carry his master in this great home-coming festivity, but Dr. Mohler felt that the risk was too great, so the famous steed was required to serve his term in quarantine.

Those are a few of the things that Mohler and his men do for the stock growers of the United States. In addition, they are experimenting all the time on breeding problems, feeding methods, and a great many other things, and are making their discoveries available to everybody who is

interested in live stock.

Mohler is a very successful administrator of that big work, his intimates say, because he is a democrat--spell it with a small "d." He is just one of the 4,400 workers--a little busier, perhaps, but just as accessible as any of them. Others say that his success is due to the fact that he combines the qualities of the researcher, the practitioner, and the administrator. And he has been able to do that, I believe, because he never had a fad. I tried diligently among the men who know him best to get them to tell me something outside of his regular duties that he works at or plays at. They couldn't do it. The nearest any of them came to it was one who said. "Well, Mohler loves a good joke--loves to hear one and loves to tell one."

Certainly this short sketch of the chief of the Bureau of Animal Industry--one of the 17 great bureaus of the Department of Agriculture--gives some idea of the wonderful service the bureau is rendering the farmers and people generally by helpful suggestions regarding protection of live stock and directions for prevention of loss by disease, and considered in connection with the other sixteen bureaus some idea may be had of the service of the Department of Agriculture as a whole.

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U. S. DEPARTMENT OF AGRICULTURE
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Release - Monday, July 19, 1920.

UNCLE SAM'S HIRED MEN WHO SERVE YOU

Dr. L. O. Howard, Chief of the Bureau of Entomology, Veteran Campaigner Against the Bugs, Probably Saves American Farmers a Billion Dollars a Year.

By Dixon Merritt

This is the second of a series of articles this publication is running, in cooperation with the U. S. Department of Agriculture, to acquaint our readers with the type of men who are making possible the wonderful service the department is rendering and stands ready to render our readers, that those not now availing themselves of these services may do so. ---------- Editor

Half a billion dollars a year is a pretty big estimate to put on the value of a man's services, but Dr. L. O. Howard, Chief of the Bureau of Entomology of the United States Department of Agriculture, is worth that to the farmers of the United States. That is my estimate. Estimates from different sources vary. Dr. Howard himself--a conservative man and modest--is inclined to put it at about a hundred million. Here is the basis of my own estimate: Insects annually destroy about 10 per cent of the possible production of crops in the United States. If it were not for the general use of remedies found by the Bureau of Entomology, the loss would be 20 per cent.

The difference between 10 per cent and 20 per cent of the crops of the United States is a billion dollars, easily. Then, just to be conservative, I cut that in half, and call it the annual value of Dr. Howard's services.

You see, I am using "Dr. Howard" and "the Bureau of Entomology" as interchangeable terms. That is not scientifically accurate and Dr. Howard would object to it, but all the other people in the bureau would be inclined to let it pass. He has been there so long--42 years--and has been so closely associated with all the work of protecting farmers against insects that one is justified in thinking of the bureau in terms of Howard.

The people who work with him say that Dr. Howard is the most exacting man in the world--with himself. With everybody else he is almost the opposite, they say. His men must get results, but Howard does not waste any time quibbling over methods. And yet, perhaps there is a good deal of method in that trait of his. It has the effect of encouraging personality, of developing men who do things more effectively by impressing their individuality on the work. Somebody said of Dr. Howard a good many years ago that his work had less of academic assumption than any other scientific bureau in the Government. Dogma finds no place in his thought. He does not believe that it is any of any man's business how any other man thinks.

When Dr. Howard came to the Department of Agriculture 42 years ago, economic entomology was not sure of its social position among the sciences. Other sciences looked upon it askance. Men were inclined to feel that entomologists partook of the diminutive nature of the creatures they study. That is not true now and has not been true for a good many years. Dr. Howard says, modestly, that he has "probably helped the appreciation of economic entomology as a scientifically based thing among other scientific men."

Other scientific men say that Dr. Howard, by his work in the Department of Agriculture, has been the dominating force in making economic entomology a great science and recognized as such.

I suspect, however, that the value of the science is not yet thoroughly understood by people generally. Let me point out a few things that have been accomplished by one of Dr. Howard's specialties--the study of the parasites of insect pests.

The fluted or white scale of California was inflicting tremendous injury upon the citrus-fruit industry. The Department of Agriculture introduced from the Orient a lady-bird beetle, a natural enemy of the scale. The result was the speedy reduction of the scale to negligible numbers and the saving of the citrus industry of the Pacific Coast.

Nearly 50 years ago, an instructor at Harvard had a fad for moths. Entomology was not his work, but he was playing at it. He had imported a number of moths and caterpillars from Europe. A storm destroyed his netting enclosure and liberated some of the caterpillars. Twenty years later, the gypsy moth progeny of some of those escaped caterpillars having increased unnoticed till that time, appeared as a pest and threatened the destruction of orchard, shade, ornamental and forest trees. The plague spread to Maine, New Hampshire, Rhode Island, and Connecticut. The States and the Federal Government began a campaign of control. Dr. Howard made several trips to Europe and sent back parasites and natural enemies of both the gypsy and brown-tail moths. These insects are no longer serious enemies of orchard, shade, or ornamental trees. Imported enemies and other control measures have got them in hand. Even in mixed forests, a system of forest management has been devised which, with the help of the natural enemies, results

in practical control wherever adopted.

A few years ago the Japanese beetle got into New Jersey on imported nursery stock and threatened tremendous damage. The Department of Agriculture, in cooperation with the State authorities, have held it to a comparatively small area, and a representative of the Bureau of Entomology is now in Japan finding out the natural enemies of the beetle and sending them to prey upon it in New Jersey.

The sugar cane moth-borer, for several years past, has been causing heavy loss to sugar planters in Louisiana, having got across the water from Cuba. The Department of Agriculture kept a specialist in Cuba last season finding out the natural enemies of the borer and sending them to Louisiana. A number of them have been established. This year men will be kept in Cuba and many more borer enemies will be introduced to help in the control of this very dangerous enemy of the sugar crop.

Another of Dr. Howard's specialties is medical entomology--he is an M.D. in addition to the scientific degrees he holds from Cornell and other institutions. He has been especially interested, therefore, in the insects that cause disease in man. The detection of mosquitoes as carriers of yellow fever and malaria made the control studies and biological studies of mosquitoes which he early made in the Department of Agriculture of the greatest help in the control of disease. So has the work against the house fly as a carrier of typhoid fever and other diseases. His books, "Mosquitoes" and "The House Fly--Disease Carrier," were published when the campaigns against those insects were in the critical formative period, and each book has been a power against the enemy of man with which it deals.

These are just a few of the things that the Bureau of Entomology, under Dr. Howard's direction, has done. There are a great many others, some of them of even greater economic importance. Just now, the entomologists of the department are fighting the pink bollworm of cotton, the most destructive enemy of that crop, which has got into Texas and Louisiana from Mexico. But for this work, it would spread over the South, levying a heavy loss on every crop and undoubtedly destroying the cotton industry in many places. When the cotton boll weevil came in 28 years ago, Dr. Howard recommended the passage of a strict quarantine law and a campaign of extermination while it was still confined to a narrow area. State cooperation could not be secured, however, and the boll weevil has destroyed millions of dollars of cotton every year since, estimated as high as $200,000,000 in a single year. During the past few years, however, the Bureau of Entomology has discovered a means of control by dusting the cotton with calcium arsenate. The effectiveness of it is indicated by the results of one experiment in an abandoned field where a poisoned strip produced 480 pounds of cotton against 50 and 60 pounds, respectively, for two unpoisoned strips of similar area. This system has been adopted by many planters and is already saving tremendous quantities of cotton.

The Hessian fly has long been the most destructive enemy of small grain--seriously competed with only by the chinch bug. Cultural methods of control have been developed which, where followed, reduce injury from both these pests by millions of dollars a year.

A slight modification in cultural practice was found by which the clover seed midge is controlled and the clover seed crop over a large part of the country saved.

Coniferous forests are protected against the destructive bark beetles by a system of removing a certain per cent of infested timber at certain periods, and the cost is met by the value of the timber cut.

But the story can not be told in full. Nearly half a century of work can not be shaken down into a sketch. During that time, Dr. Howard has written and published more than 800 books and papers, many of which have been translated into various languages. He is a member of more than 20 scientific societies in this and foreign countries. He is a member of the National Academy of Sciences, is president of the American Association for for the Advancement of Science, and has held offices in various other scientific bodies in this country.

And all those things have not taken up all of his time. He used to be interested in all out-of-door sports, and in later years has devoted some attention to golf. But his principal recreation is people. He is always interested in the other person's viewpoint, whether the other person be man, woman, or child. He talks with everybody everywhere, and learns something from all of them,he says.

Reverting to the initial estimate placed on Dr. Howard's services, I do not want to create the impression that even at half a billion dollars a year, he is the most valuable man in the Department of Agriculture. As I said before, he is a modest man, and such a statement would not please him. Anyhow, there are 16 other bureau chiefs, anyone of whom has a value comparable to his.

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U. S. DEPARTMENT OF AGRICULTURE
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Release - Monday, August 2, 1920.

:UNCLE SAM'S HIRED MEN WHO SERVE YOU:

An Organizer of a Nation-Wide System of Education and Research in Agriculture and Home Economics Is Dr. A. C. True, Director of the States Relations Service.

By Capt. H. P. Sheldon

This is the third of a series of articles this publication is running, in cooperation with the U. S. Department of Agriculture, to acquaint our readers with the type of men who are making possible the wonderful service the department is rendering and stands ready to render our readers that those not now availing themselves of these services may do so. ---------- Editor

"A great winner of battles." That was the description I had of the man; and the search for him took me to the top story of a gray office building in Washington. I wanted to see this warrior--this man who fought the battles of the farm boy and farm girl, the farm woman, and the farmer himself. Quite naturally, I expected to find a typical fighter, a man lean of frame and strong of jaw; a man of steady eye and brief, curt address. But when a door opened and I stepped into the office of Dr. A. C. True, Director of the States Relations Service, United States Department of Agriculture,

I met a man who had none of these marks which denote the warrior--excepting, perhaps, the eyes, which were steady and direct in their gaze. The man looked more like a scholar than a fighter; yet I had another's word for it that he was a winner of battles.

But was that all that my informant had said on the subject? Wasn't there another phrase? Oh, yes! "He wins his battles without fighting them!" That was the rest of the sentence; the qualifying statement that helped me to reconcile this scholarly appearing man with his reputation of accomplishment. "Winning battles without fighting them!" Strategy instead of force of arms. Didn't a great general say that more battles are won by marching than fighting? Haven't history's greatest soldiers been scholarly men? I began to understand.

Dr. True is not a fighter in the sense of plunging against obstacles; rather he is a diplomat and wins his point by clearing away the trouble-making barriers. He has great faith in common counsel, mutual understanding, and broad-minded cooperation. In the days when Dr. True was beginning the task that was to be his life work he was often met by strong, sincere opposition from men or from organizations. When this occurred, did he rave and rant and argue and antagonize? Indeed he did not! He gave his opponent credit for a sincerity equaling his own, and then set about to find why their "minds did not meet," as the lawyers would put it. Nine times out of ten he found the obstacle, nine times out of ten it was only the confusion of two minds striving for the same worthy goal, but approaching along different paths, and nine times out of ten he succeeded in clearing the misunderstanding away and enlisting the support of his one-time opponent in the great cause for which he worked--the elevation of agriculture to its true

rank as a profession, and the enlisting of effective cooperation of all worthy forces to this end.

Dr. True was educated at Wesleyan University, graduating from that institution in 1873. He attended Harvard University from 1882 to 1884. His education was classical and scientific, though it proved to be admirably adapted for the service he was to perform. His interest in agriculture came later, when the establishment of agricultural experiment stations and the development of the land-grant colleges opened the door to professional training in agriculture. Dr. True's work, after he left college, was that of teaching, but he was soon called to Washington to organize and edit the Experiment Station Record, which is now recognized as the most complete review of scientific investigation in agriculture in the world. This was in 1889, and from that time on Dr. True's effort was directed toward organizing and establishing agricultural research on a sound scientific basis, putting agricultural subjects in pedagogical form--shaping the science of agriculture so that it could be more effectively taught in American colleges and schools--and making agriculture a recognized, honored, and useful profession.

"Judge a carpenter by his chips" is a homely way of stating the great truth that a man must be judged by the work he has done. Dr. True has heaped his bench with the right sort of chips. His tool has been the Office of Experiment Stations and its enlarged successor, the States Relations Service of the Department of Agriculture, and here are some of the finished products turned out by this bureau under his direction.

It has helped greatly to bring about the present system of agricultural experiment stations, which is "unsurpassed in the world for its efficiency

and practical usefulness to agriculture."

It has been influential in putting the subject matter of agriculture and home economics in teachable form for the use of agricultural colleges and lower schools.

It has helped the masses of farm people, who could not go to college, through the educational extension work in agriculture and home economics carried out by the county agricultural agents, home demonstration agents, club leaders, specialists, farm bureaus, and publications.

A widespread revival of the production and conservation, by canning and other means, of fruits and vegetables for home consumption is a notable achievement of the extension workers of the service.

Alaska owes its agricultural awakening to the service, and hardy cereals and vegetables are now grown within a comparatively short distance of the Artic Circle.

The agriculture of our insular possessions--Hawaii, Porto Rico, Guam, and the Virgin Islands--is also being developed and made more nearly self-sustaining by the work of the service.

It has made important contributions to the scientific and practical knowledge of the economical and efficient use of the products of agriculture and to the subject of home economics in general through its investigations relating to foods, diet, clothing, and household equipment, work, and management.

To the inquiring person, Dr. True will probably emphasize especially the contribution of the States Relations Service toward making the science of agriculture an accepted course in American educational institutions, but you will find many men high up in farming affairs who hold this accomplish-

ment second to that of organizing and developing experiment station work under the Hatch and Adams Acts, or the cooperative extension work in agriculture and home economics under the Smith-Lever Act. In the latter case there was a new idea in agricultural education to be tried out on a broad scale. If it should prove successful the extension system promised to be the most intimate and effective means for carrying precise and specific information to the farm people.

Thanks to the efficient organization which was built up, the extension system did work, and it worked so well that in the years since the first county agent went out to his work the number of county agents, home demonstration agents, club leaders, and extension specialists engaged in extension work has increased to about 5,000 specially trained men and women--the infantry of the Department of Agriculture and the State agricultural colleges; the live, intimate, friendly personalities who help the farmer and the farmer's wife, as well as the boys and girls of the farm, in their daily battles with farm problems.

The ideal of service to the farmer that is the motive power back of every project of the Department of Agriculture is expressed by the States Relations Service, mostly in terms of agricultural and home demonstration agents--"men and women county agents." The department aims to have one each of these useful citizens in every county in the United States. At present, the score shows one-third of the total number of counties supplied with both, one-third with men agents only, and one-third with none at all. The battle is not yet won--there is still much to be done in the way of organizing the cooperative forces throughout the country, and training men and women for the very exacting work of the profession, but the Doctor is steadily scoring

his quiet victories, and he will win for his idea, if there is any virtue in straight thinking, clear vision, and unwavering faith in the cause he advocates.

Dr. True's relaxations and recreations are what one might suppose them to be--travel, trout fishing, and botanizing. He loves to spend his vacations in the beautiful Champlain country of Vermont, where he finds ample opportunity to indulge in his pastimes. His Vermont neighbors remember instances when, with the hay out, and a summer storm approaching, they have welcomed the appearance of the scholarly volunteer and his pitchfork. In these tasks as well as in the greater work of the office he holds, in the Department of Agriculture, Dr. True has been as loyal in nature as he is True in name.

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10207

U. S. DEPARTMENT OF AGRICULTURE
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Release - Monday, August 16, 1920.

:UNCLE SAM'S HIRED MEN WHO SERVE YOU:

If George Livingston, Chief of the Bureau of Markets,
Doesn't Put Money in Your Pockets
It Won't Be His Fault.

By Frank George.

This is the fourth of a series of articles this publication is running, in cooperation with the U. S. Department of Agriculture, to acquaint our readers with the type of men who are making possible the wonderful service the department is rendering and stands ready to render our readers, that those not now availing themselves of these services may do so. ---------- Editor

It will be recalled that in Greek Mythology Argus, the son of Zeus and Niobe, had a hundred eyes. George Livingston, Chief of the Bureau of Markets, United States Department of Agriculture, has but two eyes--being just an every-day human being--but his friends say that his vision is better than Argus' ever was. It has to be good to see all sides of the big farm marketing problems of to-day and then to look after 100 field offices distributed throughout the United States, as well as to direct the activities of some 1,330 employees who are trying to solve them.

But going back a little farther, George Livingston first saw the light of day on September 14, 1886. Thereafter, he spent 18 years on a farm. During that time he saw a great many things. Other people saw them too. But whereas others sat down and grumbled at the hard lot of the farmer, George Livingston determined to apply corrective measures if he ever got the opportunity. At the same time he perceived that Mr. Opportunity might fail to put in an appearance, so he donned his hunting togs and went after him.

At twenty-nine G. L. was an authority on grain and grain marketing. He had graduated from the Ohio State University and thereafter spent five years specializing in agricultural and marketing methods in the capacity of instructor and assistant professor at various universities. His post-graduate course at Cornell University subsequently led him to Europe to study agricultural practices there. Then he joined the Bureau of Markets. His executive ability and genius for organization were soon recognized and four years later he was appointed chief of the bureau.

Quick to recognize ability in others George Livingston is never satisfied until its full force is being applied. When he established the grain inspection service he assembled the best talent that could be found--men who knew their business from the ground up. It was not an easy job. There were many persons who knew that while the adoption of standard grades would remove the guesswork from grain marketing and therefore be of huge benefit to the farmer, it would also reduce their own incomes considerably. However, that did not deter G. L. for a moment. But instead of holding a bludgeon over their heads he sought quietly to secure their cooperation.

And he did it. That is the way he does everything-- quietly, courteously, unerringly.

For more than half a century agricultural experts and agencies have devoted almost their entire attention to production problems. But these experts are now agreed that the question of marketing is of equal importance, and that the present marketing system is wasteful and inefficient in many spots. They say that with the present methods farmers lose millions of dollars annually. More important than that is the economic waste caused by the quantity of food actually lost.

It is only comparatively recently, however, that any organized effort has been made to develop the machinery of marketing to meet the Nation's requirements. And with the United States leading the world in the maintenance of a government agency to study and devise new marketing methods, economists and students of food distribution problems everywhere are watching closely the results secured by the Bureau of Markets and the man who directs its activities.

Already conspicuous achievements have been secured by establishing standard grades for farm products, reducing waste caused by faulty storage and shipping methods, and lowering costs of distribution of some agricultural products. One or two examples will indicate what it is possible to accomplish by improving present marketing methods.

By developing an inexpensive storage house for sweet potatoes and widely advocating its use the loss by decay of the sweet potato crop has been reduced from 25 per cent to 2 per cent--a saving of about $2,000,000 a year.

The president of a national bank in Marshall County, Texas, has stated that the service rendered by the Bureau of Markets in connection with the assistance given cotton growers in grading and stapling cotton before sale has been worth $150,000 to the county. Another prominent man in Hall county, Texas, states that similar service performed there has been worth $200,000. Hundreds of letters containing statements such as these regarding all agricultural products are continually received by the bureau.

G. L. considers that the standardization of farm products and the containers in which they are packed is fundamentally the most important work being performed by the bureau; a work that is basic to all improvement in marketing, for without established standards and grades there is no recognized basis for buying and selling; no common language by which the parties to a transaction may understand each other; no uniform standard of quality upon which values and prices may be based.

Mandatory standards have been fixed for American Upland cotton, including grade, color, and length of staple; for shelled corn, wheat and oats; and for climax baskets and containers for small fruits, berries, and vegetables. Permissive standards have been recommended for white potatoes, sweet potatoes, Bermuda onions, strawberries, Sea Island and American-Egyptian cottons, and tentative standards have been formulated for some other commodities. There is urgent need for the standardization of hay, wool, live stock, dairy and poultry products. In the matter of hay alone many farmers have stated that 9/10 of the losses sustained in the hay business are due to a lack of standard grades and a uniform impartial inspection service.

He also believes that the economic waste caused by shipping products to glutted markets and away from under-supplied markets, will be prevented

by the use of the Bureau of Markets news service which many farmers find of inestimable value in marketing their produce. These reports cover live stock and meats, poultry and dairy products, fruits, vegetables, peanuts, cotton, hay, feeds, and seeds. The data are secured from most reliable sources by special representatives at the markets, and by means of a reporting arrangement with 474 railroads. The cantaloupe growers and shippers of California state that this service, together with the assistance given by personal representatives of the Bureau of Markets, have saved them $1,000,000 in a single season.

The daily, weekly, and monthly market reports and summaries showing market conditions, prices, movement, supply and demand in connection with live stock, meats, wool, hides, and skins; the preliminary standardization of classes and grades of these products; investigations of waste and loss in marketing with suggestions for improved methods, and stock-yard supervision calculated to detect and prevent dishonest practices have effected a stabilization of the live stock markets and a saving of millions of dollars, directly and indirectly, to the producers, shippers, and handlers concerned.

Another important factor in marketing is the Food Products Inspection Service established by the bureau, by the use of which shippers and others interested can obtain certificates attesting the condition of their perishable products received at central markets; a service that facilitates the distribution of the products covered, hastens the release of cars, lessens deterioration and waste on account of delays resulting from disputes as to the condition of products, and prevents unfair trade practices.

Then there is the organization of farmers' cooperative associations--permanent, economic institutions that have a far-reaching effect. There

are now more than 14,000 farmers' cooperative associations in the United States, in the organization of many of which the bureau was called upon to lend assistance. A staff of experts is maintained to study practical methods of cooperative marketing and to place the results in the hands of the farmers.

The writer endeavored to draw out from George Livingston something about himself. But without success. Self has no place in his lexicon. But he had a great deal to say about the work of the Bureau of Markets, and in doing so the force of his personality and capability was plainly evident in spite of his modesty.

"The Bureau of Markets is endeavoring to devise the quickest, most direct, and least expensive methods of getting products to market," he said. "Slip-shod methods must go, for the new methods will be better."

"Of course, it must be appreciated that the job can not be done overnight. Present marketing methods are the product of evolution, and better marketing practices must come through gradual improvement in methods and procedure. It has taken decades and in fact a century or so to develop the production side of agriculture to its present degree of efficiency, and there yet remains much to be done. I hope that the development of efficient marketing machinery will not take that long, but it is a vast undertaking, and every step of the journey must be sure-footed.

"To accomplish that result the bureau needs to have on its staff workers of proved ability through practical experience; workers who are keenly sympathetic with the farmers' needs. In a word, we want in the Bureau of Markets the best marketing specialists found anywhere in the world.

"But of equal importance is the hearty cooperation of everyone. By the character of service rendered we want the farmer to know that the bureau is his friend, and not to hesitate to call upon it to help him solve his marketing problems. It is his bureau, and we are ready and anxious to serve him."

In that last sentence is contained the keynote to George Livingston's code. Service to others is his religion. He is constantly devising means of helping the farmers with their problems, and the only reward he asks is that the farmers come half way to meet him.

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27207

U. S. DEPARTMENT OF AGRICULTURE
Division of Publications
Office of Information

Release-Thursday, Sept. 2, 1920.

:UNCLE SAM'S HIRED MEN WHO SERVE YOU:

Dr. William A. Taylor, Chief of the Bureau of Plant Industry, Works Quietly and Deliberately, But See What He and His Bureau Have Done.

By W. J. Maddox

This is the fifth of a series of articles this publication is running, in cooperation with the U. S. Department of Agriculture, to acquaint our readers with the type of men who are making possible the wonderful service the department is rendering and stands ready to render our readers, that those not now availing themselves of these services may do so. ---------- Editor

The club itself, together with its high-sounding name -- Pathological Seminar -- has become but little more than a memory, except in the minds of the handful of men who in the early days of the United States Department of Agriculture met at one another's home in Washington to discuss various questions connected with their work. They were all young men, at the outset of their careers -- a group destined to produce some of the foremost leaders in their respective lines of work.

Among the men who foregathered at these informal talks was a quiet, thoughtful, painstaking young fellow, fresh from the fruit country of

Michigan. He brought to the discussions not only the theoretical knowledge gained from a course at the Michigan Agricultural College, but the actual practical experience in fruit growing obtained on a real fruit farm where he spent most of his youth. He was a good listener, and soon gained among his companions that confidence usually given to quiet men of his type. His comments, when he made them, were always well thought out and aptly put, a characteristic that has marked his utterances ever since.

A Thorough Investigator

This man was Dr. William A. Taylor, who was to become one of the department's most efficient administrative officers, Chief of the Bureau of Plant Industry, and a man recognized throughout the country as one of the highest authorities on the growing, storage, shipment and handling of fruits. He is known as a very thorough investigator, one that carefully weighs all essential factors before arriving at a decision.

While Dr. Taylor came to the department shortly after graduation from college, he brought with him a great store of practical farming knowledge gained as a boy, which has stood him in good stead upon many occasions in making his bureau of actual, first-hand aid not only to the farmers of the country but to the people generally.

One very striking instance of this is revealed in the part played by the group of workers of which he had charge in coming to the aid of the orange shippers and the railways, who for a long time were at odds over the heavy deterioration of oranges during transit. The loss averaged about 20 per cent of the fruit shipped, due chiefly to blue-mold. The railways and the shippers appealed to the Department of Agriculture. It

was found that many slight abrasions were made in the fruit in picking and handling it. At the suggestion of department specialists the sharp points on the instruments used in cutting the fruit from the trees were filed down; the oranges were cut close without stems, and workers who handled the fruit were provided with gloves. By these measures the loss was cut down from 20 to 2 per cent. At that time the orange crop was valued at about $30,000,000 a year.

Among the important accomplishments of the bureau under Dr. Taylor's direction, is its work to improve methods of handling, transportation and storage of fruits, vegetables and other agricultural products. It demonstrated the importance of precooling fruit before shipment and the necessity of shipping in ventilated cars. Its specialists worked out improvements in the construction of refrigerator cars to insure the necessary ventilation. This not only greatly reduced the cost of transportation, but also greatly lessened losses of fruit and vegetables in transit.

Notable Work with Cotton

The bureau has done notable work in the breeding and distribution of superior varieties of cotton. These have been established in commercial cultivation in different parts of the cotton-producing areas to which they are specifically adapted. The most important varieties bred and distributed are the Lone Star, Trice, Acala, Columbia, Durango, Meade, and Pima. The value of this work can be realized when it is known that the present annual production of these varieties is estimated at between $200,000,000 and $300,000,000.

The Lone Star cotton belongs to the Texas big-boll type, with Triumph and Rowden, but has superior fiber and is now grown largely in the chief

producing regions of Texas and adjacent States, probably to the extent of at least 1,000,000 bales. On this basis the advantage to farmers in substituting Lone Star for competing varieties may be estimated from $10,000,000 to $20,000,000 a year.

The Pima cotton is the basis of the new Egyptian cotton industry of Arizona and California, in irrigated districts that grew no cotton only a few years ago. In the Salt River Valley alone the Pima crop of last year, valued at $20,000,000, returned nearly twice the cost of all the reclamation works of the Valley, including the Roosevelt Dam.

Among the new varieties of grain introduced and developed in this country by the bureau is the famous durum wheat. This achievement met with rapid success, and durum wheat is now grown on a large scale. The 1918 crop was estimated at slightly less than $100,000,000. Not only this, but an entirely new industry for this country, the manufacture of macaroni, for which this wheat is particularly suitable, was established.

Not Measurable in Dollars

These are only a few examples of what Dr. Taylor and the highly efficient organization of which he is the administrative head is accomplishing for the producers, and consequently for the consumers of the country. It is impossible to estimate the value of the work of the Bureau of Plant Industry to the people of the country in dollars and cents. We can point to any one case, such as that of the orange growers, and show what it meant to them to have their losses cut down from 20 per cent to 2 per cent. The immediate, obvious gain is to a very small group of interests, but there is no calculating the indirect benefits to business and the public generally. It requires nothing short of a Benthamite mathematician to reckon them. It

is very much like the dropping of a stone into a pool of water. The ripples spread in all directions and their impulse is felt over a wide area. There is no telling where the commercial ripples from this pebble do not touch -- the banks, the railways, the manufacturers of the many supplies incident to the business and others almost without end. With our present complex commercial life, it would hardly be an exaggeration to say that there is no line of business that does not feel the influence in some way.

The password of the bureau is "science for service." The bureau stands ready at all times to place the knowledge and labors of its highly skilled specialists at the disposal of any individual or group of citizens who seek advice upon any subject connected with plant industry -- and this covers a very wide field, indeed. It includes investigations of the causes, prevention and treatment of diseases of plants, including fruit, ornamental, shade and forest trees; the introduction of new varieties of plants; the improvement and utilization of grazing lands; use of irrigated lands; soil fertility; and the improvement and production of cereals. Many others could be mentioned, for the work touches plant life in all its relations to agriculture.

Heads Large Staff

Under Dr. Taylor's direction, there are approximately 2,103 employees, 868 of whom are located in Washington, D. C., and 1,235 engaged in the work of the bureau outside of that city. As occasion arises representatives are sent out to various foreign countries on exploration work in search of new plants that can be introduced and developed profitably in the United States, or to study plant diseases where there is danger of introduction

to this country.

Among the important field activities of the bureau is that of investigating and studying methods for eradication of plant diseases. It is endeavored to diagnose and determine the cause of new plant diseases just as soon as they develop or are introduced into the United States so that measures can be taken without delay for checking their spread or means advised for restricting their further introduction. Notable work along this line has been done with regard to diseases of wheat, cotton, vegetables and fruit. Closely connected with this is the work of stamping out carriers of destructive plant diseases such as the common barberry which is considered responsible for the epidemics of black stem rust of wheat which so greatly reduce the crop of spring wheat in some seasons.

It is as head of a work of such scope that Dr. Taylor is in a position to place his great talents at the service of the country. He was born at Chelsea, Mich., June 23, 1863. He was graduated from the Michigan Agricultural College in 1888 with the degree of B. S., receiving his doctor's degree from that institution in 1913. Before entering the government service he managed a fruit farm and nursery in Michigan. He entered the Department of Agriculture as an assistant pomologist in 1891 and served successively as assistant chief of the Division of Pomology, pomologist in charge of Field Investigations, and as assistant chief of the bureau until his appointment as chief in March, 1913.

31207 #

U. S. DEPARTMENT OF AGRICULTURE
Division of Publications
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Release - September 13, 1920.

:UNCLE SAM'S HIRED MEN WHO SERVE YOU:

Here Is Charles F. Marvin, the Weather Man, a Scientist and Inventor--That's the Reason He's Right 90 Per Cent of the Time.

By John Anson Ford

This is the sixth of a series of articles this publication is running, in cooperation with the U. S. Department of Agriculture, to acquaint our readers with the type of men who are making possible the wonderful service the department is rendering and stands ready to render our readers, that those not now availing themselves of these services may do so. ---------- Editor

Charles F. Marvin, Chief of the Weather Bureau, was "discovered" by a famous Arctic explorer--not while the latter was in the Northland, to be sure, but in Washington, D. C. The story goes back to the '80's, not long after young Marvin had passed a Civil Service examination and secured an appointment as "junior professor"--an odd title designating a position in the Signal Corps, which in those days carried on weather forecasting and related work known to science as meteorology. It was the famous discoverer of new land north of Greenland, Major General A. W. Greeley, who discerned, while head of the Signal Corps after his return from the North, that Marvin possessed exceptional ability in mechanical engineering. He

foresaw the great service which the young man might render to his country in the weather forecasting organization, and opened the door of opportunity for him.

"I told you so," the venerable General says in effect, when folks talk about the record Marvin has made in the 30-odd years he has been working for the Government. "I am proud to take a good deal of credit for having started him on a path which has led to wonderful achievements."

If it seems a far cry from mechanical engineering to weather forecasting, let the reader remember that 85 to 90 per cent of the day-to-day forecasts of the Weather Bureau are accurate and that this remarkable record has been possible because of the increasing skill of the forecasters, supplemented by one of the most extraordinary collections of scientific apparatus and instruments to be found anywhere in the world. Among the inventors of these meteorological instruments Mr. Marvin stands first.

Had Mr. Marvin spent his life in private employment and made as many fundamental inventions for some chosen industry as he has while in Government service he would have been rewarded many times over what Uncle Sam has paid him. When he became chief of the Weather Bureau in 1913, after 29 years of service in subordinate positions, his salary was placed at $5,000. There it has remained, regardless of the H. C. of L. and his invaluable contributions to a Government service which annually saves the farmers, through its timely warnings, hundreds of thousands of dollars loss in live stock and crops; a service which also acts as the trusted lookout for numberless shippers on land and water, warning them of approaching storm, cold or heat; a service performing a score of other important tasks touching the Nation's daily life. One of the most remarkable facts about the Weather Bureau is that in recent

years not a single great storm has occurred in this country which has not been adequately heralded by the Government's forecasters.

Mr. Marvin's contributions to his chosen science have received gratifying recognition in the scientific world. When the office of chief of the Weather Bureau became vacant in 1913, President Wilson asked the National Academy of Sciences to submit a list of men it would recommend for appointment. Mr. Marvin's name was one of four submitted. His appointment as chief came as a well-merited reward.

Everybody has heard of box kites, but few know that an improved type of box kite which will go up a mile or more was devised by Marvin and built to carry what is called a kite meteorograph which also is a Marvin invention. This little instrument weighing about 1½ pounds records the atmospheric pressure, temperature, the humidity, and the velocity of the wind. Large numbers of these kite meteorographs are in use by the Weather Bureau. Incidentally, the reeling apparatus by which each kite's 40,000 or 50,000 feet of steel wire is wound up automatically, is also Marvin's invention.

Ever hear of Marvin's pyrheliometer? It's a mighty important instrument for measuring one of the forces fundamental to all life--the amount of heat received from the sun on which plant and animal processes depend. Another of his achievements is a particularly efficient seismograph which records earthquake shocks, and is so sensitive that it will respond to heavy disturbances taking place in any part of the earth.

Of prime importance in studying soil moisture, etc., is knowledge of the rate at which evaporation takes place on the surface of bodies of water. One of the instruments used in this work is also the product of his brain. Still another Marvin invention is a barograph of exceptional precision, which

makes a continuous record of atmospheric pressures so that one can tell at a glance how much the barometer has risen and fallen during a given period. No weather forecasting can be done without knowledge of changes in barometric pressures.

A study of the clouds, their character and movements, is another important phase of the work at the Weather Bureau. To carry it on better, Mr. Marvin devised a nephoscope by which an observer views clouded conditions of the sky, and by means of scales and sighting arrangements, determines the motion of clouds and their apparent velocity.

Of all the varied services under Marvin's supervision, first in importance is the work of the Forecasting Division, which receives and charts twice daily telegraphic reports of prevailing weather conditions, and issues statements of impending weather changes. In the case of severe disturbances, warnings are issued along the lakes and sea coasts. The frost and cold wave warnings are invaluable to many interests, including the trucker and fruit grower, especially in the spring when tender vegetation needs protection.

The aim of the Weather Bureau, as guided in its enlarging program by Mr. Marvin, has been to serve wherever its facilities and a special need made service practicable. The variety of special uses of the storm warnings illustrate another phase of the practical value of the forecasters' service. In advance of a predicted storm, rice planters flood their crops to prevent the straw from being broken by the winds. Agents of marine insurance companies stop insuring cargoes after a storm has been predicted. Fishermen take steps to protect their boats and nets. Lumbermen make their standing booms secure and regulate their log towing. At lake ports vessels load hurriedly if they can get off two to five hours in advance of off-shore

winds. If snow is expected shippers must start 17 to 18 hours in advance.

Not only on the farms and on the water is the service of the Weather Bureau invaluable, but cities also are constantly dependent upon it. With notice of an approaching cold wave greenhouses are closed and their boilers fired. Preparations are made at once by heating and lighting plants in all cities, whether gas, electric, steam or hot water. Fire plugs, exposed mains, and general plumbing are protected. Large stockyards drain their machines. Gasoline engines are drained. Work in concrete is stopped. Street railway companies arrange for more heat in their cars. Natural gas companies turn a larger amount of gas into their lines to provide for increased consumption. Dredging of sand and gravel ceases, and iron ore in piles for shipment is placed in the holds of vessels to prevent the wet mass from freezing.

The Division of Agricultural Meteorology, another branch of the bureau, supervises the work of about 400 special observers maintained in connection with the corn, wheat, cotton, sugar, rice, tobacco, fruit, and other industries. It has charge of the distribution of the special warnings issued for the benefit of certain crops and publishes data showing weather conditions throughout the country and the effect of these conditions on certain important crops.

When a new industry is proposed for a certain section of the country or the introduction of a plant new to a region is contemplated, a history of the climate of that region is most important. Information of this character regarding every section of the country is compiled by the Climatological Division of the bureau. It has supervision of about 4,200 cooperators and

about 42 special stations. From these are collected records of daily observations of temperature, rainfall, etc., forming the basis of a climate history of the utmost importance to future agricultural and industrial development.

The bureau maintains throughout the United States, in the West Indies, Alaska, and Hawaii about 200 meteorological stations employing from 1 to 15 persons especially trained in gathering data on which the forecasters, located at five points in the United States, base their daily predictions which combined cover the entire country. Mr. Marvin, while not specializing in forecasting himself, feels that these men at the observation stations and the forecasters deserve a larger measure of credit than is popularly accorded them.

"The public does not always realize the tremendous responsibility resting on these men," said Mr. Marvin in discussing weather forecasting. "It's no 'fair weather' job that they have. Eternal vigilance is their motto. Who can measure the responsibility that is theirs when a great storm sweeps across the country? Did you ever stop to think what would happen to ships, trains, live stock, unsheltered stores of goods, and a thousand other interests, if the Weather Bureau was not on the job when one of those West Indian hurricanes comes roaring up out of the Caribbean? I know of no other man whose task equals the forecaster's at such a time. He must be in touch every two hours with all our stations down in the southwestern section of the United States and points beyond our coast. At the earliest possible moment he must warn the section of the Gulf coast which he believes will be struck by the monster of destruction. It may be Pensacola; it may be Galveston; or

it may be in between. He must decide, and send forth the warnings. I take off my hat to these men, and if I can devise an instrument or a piece of apparatus that will make their task easier, by giving them more complete and accurate data, I am proud to make such a contribution as part of my service to this great national servant, the Weather Bureau."

And this is only one bureau of the seventeen that go to make up the United States Department of Agriculture, all working together, each using information furnished by the others in planning and suggesting better methods in agriculture for the direct benefit of the farmers and also for the benefit of every other citizen of the United States.

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19208

U. S. DEPARTMENT OF AGRICULTURE
Division of Publications
Office of Information

Release - Monday, September 27, 1920.

:UNCLE SAM'S HIRED MEN WHO SERVE YOU:

Dr. Carl L. Alsberg is "Food Taster to H.R.H., The American Public."

By H.P. Sheldon

This is the seventh of a series of articles this publication is running, in cooperation with the U.S. Department of Agriculture, to acquaint our readers with the type of men who are making possible the wonderful service the department is rendering and stands ready to render our readers, that those not now availing themselves of these services may do so. ----------Editor

Dr. Carl L. Alsberg, Chief of the Bureau of Chemistry, U.S. Department of Agriculture, gave evidence of the profession he was to follow quite early in life. On April 2, 1877, without given name, middle name or degree, he lifted his voice in unison with two or three million other New York City babies and announced that he was interested in food. His first demand in life was for pure food for himself, and it seems likely that his last demand will be for pure food for other people. He has already done a good deal of talking about it and a deal of even more effective acting.

Back in the old days there was one individual in every royal court

whose doubtful pleasure it was to taste every morsel of food from the King's plate before it was passed to his Majesty. If, after taking an experimental sip of the King's wine, the Royal taster threw a fit and died on the floor, it was assumed that the wine was not good for a healthy king to drink, and they got a new bottle - and a new Taster.

The New York infant who howled so lustily in 1877 is now Taster for His Royal Highness, the American Public. Fortunately for Dr. Alsberg and for the public he serves, it is no longer necessary to obtain a new taster every time a new food poison is discovered. If it were, Alsberg would need more lives than the toughest Thomas cat that ever squalled beneath a midnight moon, and I shall prove this later.

During the next few years, he seems to have acquired consuming interest in the physiology of plants and animals, for we find Carl L. Alsberg studying the science of chemistry in leading American and European universities. Chemistry was his father's profession, and the boy recognized it as the lever to pry open the doors of many problems connected with his life study. Chemistry, as chemistry, was a means to an end rather than the end itself.

He graduated from Columbia College in 1896 with the degree of Bachelor of Arts, and received the degree of Doctor of Medicine in 1900 from the same college. After extending his studies in the leading universities of Europe, Dr. Alsberg returned to America to teach biological chemistry at Harvard University, where, three years later, he was made chief of the Department in Biochemistry.

In 1908, he was appointed chemical biologist in charge of the Poisonous Plant Laboratory, Bureau of Plant Industry, United States Department of Agri-

culture, and in 1912, when Doctor Wiley left the Bureau of Chemistry, Doctor Alsberg was selected to take his place as its new chief.

Carl L. Alsberg is best described by a trenchant Yankeeism--"a good, sizeable, man." He has a very pleasing personality and a very rank old pipe. His eyes are the quick, interested eyes of one who loves his work and his fellow men.

We have seen how the old style Royal Taster depended upon his palate to protect his patron, and how his life, though interesting, was short. He was appointed to his post by that power of influence which rests between the words "probably" and "surely"--if he accepted he'd probably die, but if he didn't accept, he'd surely die.

But Carl L. Alsberg doesn't depend upon his palate to detect the harmful element in an adulterated article, or, for that matter, the good element in a good food article--for he does that, too--nor was he given a melancholy choice between his office and a man-sized chopping block. The American Public doesn't do things that way.

First, the Government prepared an extensive and unbelievably delicate instrument for measuring chemical values, and then it hunted up the man most capable of using this magnificent apparatus. That is how it came about that a certain genial gentleman named Alsberg sits behind a broad desk in a Department of Agriculture building and saves a good many thousands of American lives each year.

His instrument, provided by the American Public, is the Bureau of Chemistry, and it is so broad in its organization that it is almost impossible to enumerate its agencies or to detail its many functions. Almost it would be easier to name the interests and industries <u>not</u> touched by Doctor

Alsberg's organization, but one may obtain a bird's-eye view of the Royal Taster's job by glancing over this partial list of the subjects studied by the chemists and engineers at Washington:

Most people like their fish, poultry, and eggs fresh and sweet, and these three items are among the most important on our list of foodstuffs. All three are travelers; the fish must journey inland from the sea; the poultry and eggs must come from the country to the city, and all are extremely perishable. Doctor Alsberg's chemists have done a great deal to perfect packing, shipping, and storing methods for these and other perishable food products.

Man's worst enemies are the tiny creatures that crawl, or fly or jump--the insicts. If the chemists weren't wide awake to prepare insecticides to kill the swarming hordes, our crops and herds and we, ourselves, would have vanished long ago under the assault of these parasites.

Methods of preserving and packing permit a more complete utilization of the fruits and vegetables. "Wealth lies not in what we have but in what we waste" is an axiom never lost from sight by the Bureau of Chemistry. Doctor Alsberg applies the principle to more things than food. Clothing, and the leather that goes to shoe us wear the longer for the nearly magical touch given the processes by the workers down there in Washington.

A cry went up from the cloth factories when the war cut off that brilliant and variegated stream of color that flowed into this country from Europe. It called attention to a new industrial need, and this bureau of a thousand interests fostered a dye industry that is to be America's own.

Somewhere in the list of the thousand and one things that the bureau is doing--in several places, probably--you will find items which concern you directly, as they all do indirectly, and it will be easier to understand

why a scientific knowledge of chemistry is only one of Doctor Alsberg's qualifications for his post. The other qualification is the quality that impresses you when you meet the man, and to which I have already referred--the quality of human kindliness and interest in the welfare of others. Without that attribute, the great resources under his hands would become cold, irresponsive and bureaucratic. People, to Carl Alsberg, are more than figures on paper; when he lands on a crooked manufacturer with all the weight of our Uncle's long strong arm and the Federal Food and Drugs Act, he does it in the attitude of one responsible for the safety of the health and pocket book of the people generally, and, at the same time, in a spirit of fairness and consideration for honest manufacturers. Dishonest manufacturers are made to feel the force of his power.

Every little while a group of these unscrupulous manufacturers and dealers face the courts and make an effort to explain why they put glue in the gelatin they sold, or why the canners' product issued under their brand happened to be composed of putrid, decomposed articles instead of the wholesome product they advertised it to be. No manufacturer or dealer can long escape the Alsberg probe if his product is adulterated, misbranded, or poisonous. The Bureau of Chemistry will get him in the end--be sure of that!

Medicines, too! America uses a good many thousands of gallons of patent medicines each year and the Doctor sees that the stuff is properly marked. A patent medicine manufacturer can no longer place a mixture of tea and tire cement on the market with the statement that it will cure everything from mumps to compound fractures. He can still make it, but he has to label it correctly and must not offer it to the public as a cure for ailments that it will not cure.

The work of the Bureau of Chemistry with by-products heretofore considered worthless has made possible the manufacture of domestic dyes of such quality and in such quantity as may free us from dependence upon foreign manufacturers. These experts found the corn cob, the poor despised corn cob, to be crammed with latent wealth. A valuable binder suitable for card-board manufacture is taken from it, as well as fluids that are extremely essential in the manufacture of certain other products. Dr. Alsberg's organization went to work upon the cull lemon and citrus fruit problem. Thousands of tons of citrus culls were thrown away in the days before the Government chemists found a way of saving the material. Now there are four concerns in California which turn out 1,500,000 pounds of citric acid, 500,000 pounds of citrate of lime, and 50,000 pounds of lemon oil each year. Orange culls are used in an equally profitable manner.

In all the Doctor's work there is that strong, predominant note of humanity. When he makes a grain elevator or a dusty factory proof against the dreadful havoc of a dust explosion or fire, I think he sees the men and women whose lives he saves.

Out in the wheatfields of the Pacific Northwest the farmers were sustaining an annual loss of $1,000,000 a year from thrasher fires and explosions in 1914. The worst of it was that no one really knew what caused the explosions or started the fires. But the Bureau of Chemistry found out. It was dust! Just ordinary grain dust, but capable, under certain conditions, of all the condensed deviltry contained in a case of "TNT." Last year the fire and explosion losses dropped to $15,000, and this man, who saw in chemistry the key to many problems, was responsible for the good that has been done.

He's doing the same thing for the dusty factories where, in the 20 months before the preventive work was begun by the Bureau of Chemistry, 36 men and women had been killed, many more injured, and $7,000,000 worth of property destroyed by dust explosions! In the following 20 months, from October, 1917, to May, 1919, no factory or elevator, using the devices recommended by Alsberg's specialists, has had a single fire or explosion!

The Bureau of Chemistry has a little plant down on the experimental farm of the United States Department of Agriculture at Arlington, Va., that makes gas from wheat straw, corn stalks and other vegetable rubbish. This gas will heat and light a house or run a stationary gas engine. They have very little money to work with but they are hopeful that they may develop a small inexpensive gas plant which the farmer can buy and set up on his farm. If they can do this it will be possible for the farmer to use the waste vegetation from his farm to supply his house with another great city convenience--light and heat at a turn of the wrist.

The Doctor is figuring out a scheme to make our shoe leather wear longer, too, and he's so busy finding out what is good and bad in food for humans and food for animals, in saving the lives of our industrial army, that he has mighty little time to play tennis or take a canoe trip down a Maine river for his own good. His bureau, like the other 16 in the Department of Agriculture, is a public servant. Its aim is to help the people by helping the farmer, and its administration keeps its chief pretty busy. He hasn't had a real vacation in years, but when he gets a few days off he goes down to the Union Station and buys a ticket to New York where his mother lives.

I asked someone, who knows Doctor Alsberg well, just what the subject's salient characteristics were, and he said: "His love for his mother; his love for ordinary people, and his love for his work."

I hope, on that day when Old Man Charon collects my fare on his ferry, that some honest soul will think it right to tell the munument maker to put one-third of that on my humble headstone-- Don't you?

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10209

U. S. DEPARTMENT OF AGRICULTURE
Division of Publications
Office of Information

Release - Monday, October 11, 1920.

: UNCLE SAM'S HIRED MEN WHO SERVE YOU.:

Here Is Colonel W. B. Greeley, the Government's Chief Forester, Who Has Risen from the Ranks--He Wants to Make the Nation's Forests Serve You Better.

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By John Anson Ford.

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This is the eighth of a series of articles this publication is running, in cooperation with the United States Department of Agriculture, to acquaint our readers with the type of men who are making possible the wonderful service the department is rendering and stands ready to render our readers, that those not now availing themselves of these services may do so.----------Editor

The call of the wild and the influence of three men, -two former Forest Service chiefs and a much beloved old uncle--these were the factors which started William B. Greeley on a path that has led to noteworthy national service and only recently has brought him, at the age of 41, to the position of chief of the Forest Service, one of the seventeen branches of the United States Department of Agriculture.

As he sits at his flat-top desk in his Washington office and talks of the things the Forest Service has done and the still bigger work it hopes to do for the Nation, there is little in the appearance of Col. Greeley--the

title won during the great war still clings to him--to suggest that he is essentially an "outdoor man," but when he rises from his chair, bringing his big, spare frame to its full height of six feet and more, and strides vigorously across the room to grasp the hand of an incoming visitor, one discovers that he is powerful and sinewy, like the ranchmen among whom he lived so many years.

Combines East and West.

Greeley is a combination of the West and the East. Both sections of the country have shared in shaping him. He was born in Oswego, N. Y., and at the age of eleven moved with his parents to California. After seven years spent on a ranch in Santa Clara County, Greeley entered the University of California, where he remained for four years.

But in a very direct way the East influenced young Greeley. Back in Pennsylvania was an old uncle, William Buckhout, a close friend of early leaders in forest conservation in that State. Upon his advice, Greeley, after a year of teaching in Alameda (California) High School to replenish his bank account, entered Yale for two years of intensive technical study, in which he showed exceptional capacity and promise of leadership. While Greeley gives much credit to his old uncle for starting him in his profession, he also acknowledges a debt to Gifford Pinchot, then at the head of the Government's fast-growing forestry work, who early recognized his worth and encouraged his ambition for a life of valuable public service in this relatively new field.

In 1904 Greeley's connection with the Forest Service began. Little more than a year later he took charge of the Sierra National Forest in southern California. On foot and on horseback he explored mountains and

valleys, ascertaining the areas and boundaries of forested regions, locating streams and lakes, helping lay out new trails, sleeping at night in a settler's cabin or under the stars.

In the spring of 1908 Greeley was called to Washington to become assistant chief of the division of management, a task which put him directly in touch with much of the executive work of the organization. Less than a year later came another promotion through appointment as District Forester for District 1, with headquarters at Missoula, Mont. The administration to-day of the 29,000,000 acres of National Forests in Montana and northern Idaho, which were under his supervision, still bear the impress of his organizing ability and wise management. In directing the fight on the great forest fires in District 1, which caused much damage in 1910, he did especially efficient work.

Appointed Assistant Forester.

In 1911 Greeley was again called to Washington, this time to become assistant forester in charge of the branch of silviculture, which, through the district foresters, has supervision of the timber sales, timber and fire trespass cases, reforestation, and cooperative work with States and private owners in promoting fire protection. To this important assignment was shortly added oversight of the scientific investigations of the Forest Service, designed to secure new knowledge necessary for the better practice of forestry and better use of forest products.

There were still bigger experiences in store for the forester. Not long after the United States entered the great war, an urgent call came for forestry troops and the Forest Service was asked to recruit the needed men. It fell to Greeley to take charge of this. He was later sent to France where

he eventually became chief of the forestry section in the American Expeditionary Forces, in charge of 21,000 forestry troops and 95 sawmills, succeeding Henry S. Graves, who returned to the United States after serving on the general staff abroad.

Greeley's work was performed with distinction, and for it France made him a chevalier of the Legion of Honor, and England awarded him the Distinguished Service Order. After a little more than two years in the army, Greeley returned to take charge of the branch of forest management in the Forest Service, and with the resignation of Colonel Graves as forester in April, 1920, was appointed to succeed him.

Greeley's Two-Fold Duties.

As official head of the Forest Service the new forester's heritage of duty is two-fold. To make the 154 National Forests of even larger usefulness to the local and general public, as material and recreational resources, and to lead forward the movement, now becoming widespread, for adequate conservation of private forests.

The National Forests contain 154,658,373 acres of Government-owned land and are for the most part in the Rocky Mountains and in the far Western States, but there are two in Arkansas, two in Minnesota, one in Florida, and one in Michigan, and a number are being created through land purchases in the White Mountains and Southern Appalachians. One of the things in which Colonel Greeley is deeply interested is to make the recreational features of these forests better known and fully available to the people generally, though, of course, the proper utilization of their timber, ranges, water power, and other material resources bulks larger from a business standpoint. Another task is keeping down the fire losses--heroic work which each

summer puts the whole organization, from chief forester to the last ranger and forest guard, to its greatest test.

It is also the duty of the Forest Service to make sure that the grazing facilities of the forests are properly utilized. To-day the forests furnish range for approximately 2,375,000 cattle and horses, and 8,500,000 sheep and goats. Then too, there are the watersheds for some 1,200 cities and towns which lie largely or wholly within the National Forests and which must be guarded against contamination or despoliation. A further duty is that of scientific research to find out how to make better use of all our forests and of the timber and other forest products which they yield.

Apalling Timber Consumption.

Even more important, in many respects, is the timber business of the forests. The total saw timber stand on these tracts is estimated at 500 billion board feet, and the yearly cut for all purposes is over 800 million board feet. As the ripe timber is harvested new growth takes its place, and if protected from fire will in due time furnish another harvest. But this is not true of our privately owned forests. The cut of Government-owned timber is trifling in comparison with the average annual cut and loss, estimated at 26 billion cubic feet, for the entire country.

This condition justifies the utmost concern on the part of all whose interests will be affected by timber scarcity, and that means the whole Nation. Only one-fifth of our original virgin forest area is left in this country, while on all our forest lands, private and public, we are growing less than one-fourth the amount of timber annually consumed.

In the face of this ominous situation Colonel Greeley and the Department of Agriculture are urging a program to stop wasteful and unnecessary forest destruction and to keep our timberlands growing crops of trees. It calls for greatly enlarging the fire-protection work in cooperation with the States, and enlisting their cooperation to require private owners not to use methods that turn the land to a waste; extending and consolidating Federal Forest holdings; reforesting denuded lands in the National Forests; making a Federal Survey of the forest resources in the important forest regions and of our forest requirements, in order that the Nation may be in position to conserve intelligently its remaining timber resources.

"I want to make the National Forests of greater national service," is the way Colonel Greeley sums up his task. "I have seen how these great tracts can serve both material and recreational needs, and I want to raise this service to the maximum. At the same time we propose in every way possible to bring home to the people the need for a same conservation policy with respect to private forests, for if the Nation fails to call a halt on forest devastation, it will pay a terrible price!"

Such is the story of the Forest Service and the man who is directing it. It is but one of seventeen bureaus of the United States Department of Agriculture, all of which are working together to serve the Nation.

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U. S. DEPARTMENT OF AGRICULTURE
Division of Publications
Office of Information

Release - Monday, October 25, 1920.

:UNCLE SAM'S HIRED MEN WHO SERVE YOU:

The Man to Whom Soil Is a Living Thing--Milton Whitney, Chief of the Bureau of Soils--Make His Acquaintance.

By W. J. Maddox

This is the ninth of a series of articles this publication is running, in cooperation with the U. S. Department of Agriculture, to acquaint our readers with the type of men who are making possible the wonderful service the department is rendering and stands ready to render our readers, that those not now availing themselves of these services may do so.
----------Editor

Some years ago a group of highly respected men in the United States predicted dire things concerning the soil of this country--that before long it would lose its power to produce crops and that the then fertile fields would be barren wastes. It was a very alarming and gloomy picture and caused quite a deal of discussion. The prophets called upon a certain scientist of the United States Department of Agriculture, an expert on soils, to write a paper for them on the subject, expecting, of course, that he would back up their theory.

This man was Milton Whitney, now Chief of the Bureau of Soils. Now Mr. Whitney had some ideas of his own on the matter. He prepared the paper,

but he took issue with the gentlemen in question, and pronounced a theory directly opposed to theirs. His doctrine was summed up thus:

Can Not Be Used Up.

"The soil is the one indestructible, immutable asset that the Nation possesses. It is the one resource that can not be exhausted; that can not be used up. It may be impaired by abuse, but never destroyed."

This does not mean, says Mr. Whitney, that there have not been individual failures through poor management of the soil by individuals or communities. There are many failures in all industrial and commercial life, and the farmer is not exempt from similar limitation of capacity necessary for success.

Researches of the bureau have shown that the soil is a living thing, in exactly the same way that an animal or a plant is a living thing--it breathes; it has a circulatory system; it has a solution carrying food material similar to the blood of animals; it is the home of the same kind of bacteria, chemical substances and processes as play a part in the animal growth and maintenance; it digests organic matter disposing of the remains of animals and plants through much the same process and with the formation of similar organic products as animals.

The soil, he has found, is subject to fatigue, and in extreme cases to suspension of all useful activities, according to the treatment it receives and the conditions under which it exists. The soil, therefore, must be properly exercised by plowing and cultivation; it must be properly fed by plants, the remains of which it can digest, and by a rotation of plants, just as the dairyman finds it necessary to vary the feed of his cows to keep them in a high state of production.

A Physician to the Soil.

Whitney, therefore, stands in the place of a physician to the soil. As a physician advises a change of occupation or a change of diet for certain human ailments and uses drugs to aid in his treatment, so Whitney diagnoses the disorders of soils and recommends a change of method, or a change of cropping system and the intelligent use of commercial fertilizers for restoring the soil to a healthy condition of production.

To make this service of nation-wide scope and bring it directly to every farmer in the United States is Mr. Whitney's problem. Under his direction his field specialists are conducting one of the largest pieces of work of the kind ever undertaken in any country. This is the soil survey, which when completed will give a detailed account of the physical and chemical makeup of every square mile of soil in the United States. The information thus obtained is of value in many ways, particularly to the farmer. It forms a basis for determining how to treat the soil and cultivate it to the best purpose.

As to others to whom the information is of great value: The prospective farm purchaser is enabled to find the proper soil for his purposes and has expert judgment as to the nature of the soil in any one locality and the farming it is best suited for. The survey furnishes the basis for the experimental field work of the State experiment stations, and also gives the stations the necessary knowledge for advising farmers in different parts of their States as to cropping systems and cultural methods. The railways use the soil maps in their development work. Road engineers and sanitary engineers use them. Forestry men use them as a basis of sales of land after the timber has been cut. They are important to the Reclamation Service for its development work, particularly for providing efficient

drainage, and for the prevention of the rise of alkali where the possibility of such a danger is shown.

Have Wide Use.

The Post Office Department and the Department of Justice use the maps for running down fraudulent land sales. During the war, the War College and other branches of the War Department used them in the selection of camp sites, for military maneuvers and for other strategic purposes. Investment companies are using the maps in calculating risks involving land values, agricultural occupation, and health conditions.

Mr. Whitney has often been asked to place a monetary value upon the soil survey.

"It is impossible," he declares, "to place a money value on information of this kind, but if I had a farm of 100 acres I should be willing to pay a man who has the experience in soils, such as our soil-survey men have, $100 to visit my farm to tell me what the soils are, what they correspond to in other localities, and what the general experience of farmers and scientific men have developed as to the best cropping system, the best treatment and the best line of development of the soils on my particular farm. It is easily worth a dollar an acre."

That is, if all the farmers in the United States believed in the value of soil surveys as Milton Whitney believes in them--and he ought to know--we would have--at a dollar an acre--a nice little value of $640,000,000 on the surveys of the 1,000,000 square miles already studied.

Of course, though, no charge is made by the bureau for its advice to farmers or anyone else to whom its knowledge or information may be of use. On the other hand, it is anxious to be of as wide service as possible.

The 1,000,000 square miles already surveyed represent approximately one-third of the United States.

Probably the most notable other achievement of Mr. Whitney's bureau is its work against alkali. The occurrence of alkali in soils under arid conditions has caused enormous losses in the past. England has been studying the question in India for sixty years, and together with France has been pondering the same problem in the north of Africa since their occupation of that territory. The Bureau of Soils was the first to make a thorough, comprehensive study of the situation as regards the origin and character of the trouble.

As a result, its experts invented a small portable electrical testing apparatus which records through a telephone receiver the percentage of alkali at the surface or at any given depth in the soils. The methods devised by them for the detection of hidden alkali deposits and for the prevention of the rise and injury to crops from alkali through irrigation and drainage have been adopted by all the countries of the world confronted with such problems.

Through the soil survey the bureau examines and maps, in all arid regions, the amount of alkali for depths of six feet throughout the area under survey. The practical elimination of these alkali salts through drainage has been established, so that the alkali problem has ceased to have the dread that it formerly had and there is no longer a possibility of the rise of these salts from unknown and hidden deposits after irrigation begins.

The bureau has 82 men engaged in its field work, and 91 stationed at the main office at Washington, D. C..

A Profession and a Hobby.

Since his appointment as chief of the bureau, Mr. Whitney has been closely associated with all its achievements. The study of soils is not only a profession with him but a hobby. At his home in Washington he has a private laboratory where he delights to spend his odd moments conducting experiments.

Whitney is a native of Maryland, having been born in Baltimore, August 2, 1860. He was appointed assistant chemist at the Connecticut Agricultural Experiment Station in 1883; and served as superintendent of the Experiment Farm, North Carolina Experiment Station, from 1886 to 1888. In 1891 he was appointed soil physicist of the Maryland Experiment Station, where he remained until selected to head the Bureau of Soils in 1894.

The Bureau of Soils, it should be remembered, is only one of the seventeen bureaus that go to make up the United States Department of Agriculture, all working together, each using information furnished by the others in planning and suggesting better methods in agriculture for the benefit of the farmers and also for the benefit of every other citizen of the United States.

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U. S. DEPARTMENT OF AGRICULTURE
Division of Publications
Press Service

Release - Monday, November 22, 1920.

:UNCLE SAM'S HIRED MEN WHO SERVE YOU:

Dr. John K. Haywood, Chairman of the Insecticide and Fungicide Board, Saves a Billion and a Half a Year to Farmers.

By Dixon Merritt

This is the tenth of a series of articles this publication is running, in cooperation with the U. S. Department of Agriculture, to acquaint our readers with the type of men who are making possible the wonderful service the department is rendering and stands ready to render our readers, that those not now availing themselves of these services may do so. ---------- Editor.

Man's most dangerous enemies are the insects. The smallest things in the visible creation, they are capable of such tremendous increase and expansion that uncontrolled they would exterminate the human race in short order. The larger part of control comes from the operation of that mysterious thing that scientists call the balance of nature. In plain language, that law is that every form of life sustains itself by preying on other forms of life, and thus all forms together hold each form in check. That law in operation would prevent the destruction of the human species by insects, but

it would not prevent almost intolerable damage to man himself, to his live stock, and to his crops. Scientific control, added to natural control, enables the farmer in very large measure to save himself from the ravages of the insects, and, in the aggregate, makes possible the production of billions of dollars of wealth in the United States each year that otherwise would be destroyed by pests.

Queerly enough, it has been only within comparatively recent years that agriculturists have known in a definite and scientific way how to kill insects. Twenty-five years ago the United States Department of Agriculture brought from the experiment station at Cornell University a young chemist, John K. Haywood, by name, and put him to work in the Bureau of Chemistry doing a number of things in relation to stock feeds, mineral waters, and other subjects equally widely separated. Before he left Cornell he had tried to make an analysis of Paris green and found that no definite means had been discovered for analyzing insecticides. When he came to Washington he confirmed his previous opinion. A few people had examined a few insecticides, but there was no branch of chemistry that could be called insecticidal chemistry. Prior to that time there were men recognized as agricultural chemists whose work had to do with feeds, fertilizer, and chemistry in relation to the growth of plants, but none of them was even expected to know why any preparation was or was not an insecticide or fungicide. Haywood started out to develop an insecticidal and fungicidal branch of chemistry. How well he has succeeded is shown by this fact: When he began his work, any man undertaking to write a book on chemistry could not have filled a single page with any degree of accuracy on insecticidal chemistry. To-day no man could write a book on agricultural chemistry without devoting at

least a full chapter to insecticides and fungicides.

Dr. Haywood is now and has been for some years past Chairman of the Insecticide and Fungicide Board of the United States Department of Agriculture, which is made up of one representative each from the Bureau of Chemistry, the Bureau of Entomology, the Bureau of Plant Industry, and the Bureau of Animal Industry. In his capacity as Chairman, he has served all the farmers of the United States in an important work.

All food crops, all live stock, and the great cotton and tobacco crops are subject to the ravages of insects and diseases. The annual crop loss from insects and fungi in the United States is estimated to be in excess of $1,500,000,000. What the losses would be without insecticides and fungicides of sufficient potency to kill the bugs no one dares to approximate. Insecticides and fungicides are, therefore, as necessary a part of farming as fertilizers, or even plows and cultivators. In addition to seeing that the insecticides and fungicides on the market--preparations that have a commercial value of some $40,000,000--are not misrepresented, the Insecticide and Fungicide Board performs a conspicuous service in assisting manufacturers to perfect preparations that will adequately protect crops from insects and diseases. Thus millions of dollars' worth of farm products are saved annually.

The most recent contribution to the Nation's welfare along this constructive line has been Dr. Haywood's work in connection with calcium arsenate, the only effective agency in combating the cotton boll weevil, an insect that destroys millions of dollars' worth of cotton annually. The Bureau of Entomology had developed this insecticide in an experimental way. Dr. Haywood carried out the work on a commercial scale. He perfected a

commercial process for manufacturing calcium arsenate and contributed it to public use. Now manufacturers of calcium arsenate are using Dr. Haywood's process. In the past two years 13,000,000 pounds of calcium arsenate of a value of $2,600,000 has been manufactured, and it is estimated that the manufacturers will put out twice that quantity next year. The fact of greatest importance, however, is that an effective control of the cotton boll weevil has been developed. Just how much of the cotton crop has thereby been saved can not be estimated, but 10,000,000 pounds of calcium arsenate, enough to treat 2,000,000 acres of cotton, was shipped into the cotton belt during the past season.

When Dr. Haywood came to the Department of Agriculture, comparatively few insecticides and fungicides were being sold commercially. Paris green was perhaps the most important insecticide then in use. Soon other remedies appeared on the market. It was the day when the nostrum fakir was in his prime, reaping a harvest from peddling his questionable wares throughout the country. Even many manufacturers who put out insecticides and fungicides upon a relatively large scale were prone to make claims for their products that embraced all the insects and iseases, known and imaginary, that attacked plant and animal life. Dr. Haywood learned to analyze these alleged remedies and proved the ineffectuality of many of the substances used in their manufacture. Indeed, in some instances, the concoctions were found to be decidedly injurious to plant life.

There was urgent need for legislation to safeguard the public from the fraudulent preparations, and Dr. Haywood initiated the work of fostering and organizing the sentiment that culminated in the passage of the Insecticide Act of 1910. This law, the first draft of which was prepared by Dr. Haywood, prohibits the manufacture, sale, or transportation of

adulterated or misbranded insecticides and fungicides intended for use by the farmer, orchardist, truck gardener, and animal and poultry raiser, in combating and controlling insect pests, plant diseases and bacterial and parasitic diseases of animals. The law also covers disinfectants and insecticides used in the home and in public places.

The Department of Agriculture's Insecticide and Fungicide Board, which directly administers the act, is composed of three scientists in addition to Dr. Haywood--Dr. M. B. Waite, pathologist in charge of fruit disease investigations in the Bureau of Plant Industry; Dr. A. L. Quaintance, entomologist in charge of deciduous fruit insect investigations in the Bureau of Entomology, and Dr. J. A. Emery, assistant chief of the Biochemic Division of the Bureau of Animal Industry. These scientists and their assistants have devised many new methods for examining insecticides and fungicides to determine whether or not they are adulterated, and for determining in the laboratory the probable value of the products in the field. The methods perfected have been published for the use of insecticide and fungicide manufacturers, and for the use of other scientists in testing such products. Considerable work has also been done with regard to the action of various insecticidal substances on vegetation and the action of various compounds and substances against insects and fungi.

The board has collected and examined nearly 8,000 samples of insecticides and fungicides. In some 1,400 official cases manufacturers were informed that the claims set up for their products were inaccurate. They were advised either to modify their advertising to fit the actual facts or to perfect their products to meet the advertising. To do the latter was quite

impossible in a good many instances but there were also many cases where, with the assistance of the board, the preparations were made more efficacious than they had been before. The board might have prosecuted these 1,400 cases but it felt that possibly the manufacturers were honestly under a misapprehension regarding their preparations and gave them the benefit of the doubt. Had the manufacturers not complied with the law as requested, they would have faced criminal prosecution as did some 1,000 other manufacturers who persisted in ignoring it.

It will be seen that the work of the Insecticide and Fungicide Board is of far-reaching importance to the farmers of America, first in seeing they are not sold worthless articles and that the insecticides they buy are up to standard in purity and effectiveness, thus saving millions of dollars to the farmers in crops that might otherwise be lost.

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12-20-11

U. S. DEPARTMENT OF AGRICULTURE
Division of Publications
Press Service

Release - Monday, January 3, 1921.

:UNCLE SAM'S HIRED MEN WHO SERVE YOU:

Dr. E. W. Nelson, Chief, Biological Survey,
United States Department of Agriculture.

By Dixon Merritt

This is the eleventh of a series of articles this publication is running, in cooperation with the U. S. Department of Agriculture, to acquaint our readers with the type of men who are making possible the wonderful service the department is rendering and stands ready to render our readers that those not now availing themselves of these services may do so. ---------- Editor.

Practical men, who are also trained scientists, head the seventeen bureaus of the United States Department of Agriculture. The Chief of the Bureau of Biological Survey, Dr. E. W. Nelson, is an example of this fact. He was born in New Hampshire and after his father became a Civil War soldier, he lived on his grandfather's farm in northern New York until he was 14 years old. There he had the usual general-utility experiences of a boy on a short-handed farm. He later lived in Chicago for a number of years and the varied bird life of the prairies, oak ridges and lake shore so interested him that

his career as a scientist followed. In 1877, twenty years before the discovery of gold brought in white men to replace the widely scattered fur traders he was in Alaska at the age of 22. The Alaska of that day was best described as "she's wild." Four years were spent making weather observations and in natural-history explorations, including the first mapping of a large unknown area. Dog sleds were his only means of transportation over thousands of miles of trackless snow. While in the North he penetrated far beyond the Arctic Circle as naturalist on a relief expedition in search of the lost Arctic steamer "Jeannette." Some of the results of this northern work were the publication of a volume on "The Eskimos about Bering Straits" and another on the natural history of Alaska. A considerable island first mapped by him was named in his honor.

Dr. Nelson went back to Alaska last summer and found that out of the twenty-odd white men who made up the scanty population of the Yukon region in his time only one is alive to-day. The Society of Alaska Pioneers at Nome--who pioneered a good many years after he did--elected him its first honorary life member.

For six years following his Alaskan experience he owned and lived most of the time on a cattle ranch in Arizona.

Fourteen years of Dr. Nelson's life were spent in conducting scientific explorations in Mexico and Guatemala for the Biological Survey. The result of this work was an accumulation of the most extensive collections of birds and mammals and the most complete records of its wild life ever made in Mexico. Hundreds of previously unknown birds, mammals and plants were found and have been described from these collections.

In 1905-6 he led a party exploring on horseback the peninsula of Lower California, 800 miles in length. As a result the first comprehensive account of the peninsula with the most detailed map yet prepared are being published by the National Academy of Sciences.

Dr. Nelson has published a large number of monographs and minor scientific papers, a popular volume on the mammals of North America, and many travel articles in magazines.

In addition to his interest in the scientific side of nature, he is one of the well-known big-game hunters of the country, having hunted from the Arctic ice-pack to the jungles of the Tropics.

He is an honorary life member of a number of scientific societies and of the Boone & Crocket Club of New York City, the leading American organization of big-game hunters, which was founded by Theodore Roosevelt. The honorary degree of Master of Arts has been conferred upon him by Yale University, and that of Doctor of Science by George Washington University. He is an ex-president of the American Ornithologists' Union, the leading scientific society for the study of birds in America. His connection with the Bureau of Biological Survey began in 1890, when he was employed as field naturalist on the Death Valley expedition. He later became chief field naturalist of the bureau, then assistant in charge of biological investigations, then assistant chief, and on December 1, 1916, he became the head of the bureau.

The main purpose of the Biological Survey is the conservation of beneficial forms of wild life and the development of methods for controlling the harmful forms. The bureau began its work many years ago with studies of the distribution and habits of birds and wild animals. This led to

investigation of their relation to agriculture and the knowledge gained has served helpfully to aid in bringing about laws in practically all the States for wild-life protection. It has led, also, to a nation-wide campaign against rodents, from house rats and field mice up to ground squirrels, jack rabbits, prairie dogs, and the like, which destroy $500,000,000 worth of property a year, and against predatory animals which are estimated to destroy from $20,000,000 to $30,000,000 worth of live stock on the western ranges each year. The bureau maintains an organization in 18 Western States where these animal pests are most destructive.

The campaign against stock-destroying wild animals, such as wolves, coyotes, mountain lions, and others, being conducted in these States has resulted in building up perhaps the largest hunting organization in the world. From 200 to more than 400 hunters and trappers, according to the season, are employed in this work and include many of the most skillful trappers in the country. More than 3,000 gray wolves have been killed and a total of probably more than 200,000 of all kinds of predatory animals. The bureau specializes on notorious stock killers which through their cunning have long evaded capture. One wolf of this character killed in Wyoming had a record of about $25,000 worth of stock destroyed during the three years before it was killed. The stories of the trailing and destruction of some of these cunning beasts of the field are of much interest.

More than $1,000,000 has been contributed by States, local organizations, and individuals during the past year for cooperation with the Biological Survey in its campaign against predatory animals and injurious rodents. More than 130,000 farmers in the western States personally took part in this work, as a result of which, according to returns from the farmers and stock growers,

there is a saving of many millions of dollars in live stock and crops each year.

During the war the members of the staff of the Biological Survey were acting in preventing destruction of army stores on a large scale by rats. Several members of the staff were in France in this service, and the quartermaster officer in charge of the vast army stores in Brooklyn reported that by following out the plans of the Survey in one year more than 35,000 rats were killed in one series of warehouses containing millions of dollars' worth of food and other supplies, with the result that the stores were so thoroughly protected that the total damage for the year did not exceed $50.

In its study of the food habits of birds the Survey experts have examined more than 70,000 stomachs and the knowledge gained demonstrated the fact that birds are of great usefulness to agriculture in the destruction of injurious insects. Owing to the constantly increasing population of the country, the destruction of bird life became alarming. In order to prevent this, so far as possible, the Migratory Bird Treaty was negotiated for the protection of birds in the United States and Canada, and Congress passed an act to put the treaty in force. The law is administered by the Survey. As a result of the treaty and the law, a notable increase in birds, both game and nongame species, has resulted throughout the country.

The Survey has supervision, also, of the introduction of birds and small animals into the United States. Importations are examined at ports, where useful species are admitted and the injurious ones sent back or destroyed. One of the big pieces of work undertaken by the Biological Survey was the investigation of the distribution of birds, mammals and plant life in relation to climatic or life zones.

The distribution of native wild life forms reveals conditions favorable to certain crops and thus is of practical importance in agriculture, as well as in other affairs. Here is an illustration. The northern limit of what scientists call the lower austral zone, worked out by the Biological Survey on the basis of birds, mammals, and trees, shows very closely the northern limit of the natural distribution of the yellow-fever mosquito.

The Biological Survey administers the Federal bird and game reservations on which the wild life of the country is given protection against ever-increasing dangers. The bird reservations include some of the best breeding places for wild fowl throughout the United States, Alaska, and Hawaii. Millions of wild fowl are thus enabled to nest safely and to keep up their numbers under conditions that, without protection, would lead toward extermination. On the big-game reservations the same sort of protection is given to buffalo, elk, antelope, and deer.

Fur farming, an industry that has become a necessity if the supply of pelts in this country is to continue adequate to meet the demand for furs, is being developed by the Biological Survey.

The work being done by the Biological Survey in the administration of the Migratory Bird Treaty Act and other activities for the conservation of our wild life is of direct interest to a vast number of nature lovers throughout the country, as well as of practical value in helping increase the game supply for our more than 6,000,000 hunters who go afield, gun in hand, each year.

Dr. Nelson considers the friendly cooperation on a large scale which the Biological Survey has built up during the last few years with State and local officials, organizations and individuals interested in all of its lines

of work as its most valuable asset in increasing the usefulness of the bureau.

The usefulness of the Biological Survey is developing rapidly. It is generally regarded as a center of information on wild life in America and is rendering scientific and practical benefits in the conservation of beneficial species of mammals and birds, and in the extermination of harmful ones. Applications for information and methods come to the bureau from all parts of the world. It is consulted by State institutions, organizations, and individuals.

Last winter Congress gave the Survey the administration of the laws protecting the land fur-bearing animals of Alaska and placed in its hands the investigation and development of the reindeer industry of Alaska--a new source of meat supply. The reindeer experiment station personally established by Dr. Nelson last summer on the shore of Bering Sea is already getting results of much practical value.

The Biological Survey touches agriculture in many important points. It promotes the interest of other industries, and is of vital interest to the sportsmen of the country.

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U. S. Department of Agriculture
Office of Information
Press Service

HENRY AGARD WALLACE

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Henry Agard Wallace was born October 7, 1888, on a farm in Adair County, Iowa. He is the son of Henry Cantwell Wallace, secretary of agriculture under Harding, and grandson of Henry Wallace, member of Roosevelt's Country Life Commission. All three Wallaces have served as editor of Wallaces' Farmer. Henry Wallace and his sons, Henry C. Wallace and John P. Wallace, founded the magazine in 1895. Henry C. Wallace succeeded his father as editor when the latter died in 1916; Henry A. Wallace succeeded Henry C. Wallace when the latter took the position of secretary of agriculture in 1921. Since 1929, when Wallaces' Farmer and the Iowa Homestead were consolidated, Henry A. Wallace has served as editor of the consolidated magazine.

Three major influences impressed Henry A. Wallace during his childhood. First was the influence of the Adair County farm; second, the influence of Iowa State College, where his father served on the faculty of the dairy department for some time; third was the influence of the family paper, started when he was only seven years old. He has always retained his intimate connection with farm affairs; has owned and supervised the operation of a Polk County farm for years. He was graduated from Iowa State College in 1910. He began work on the editorial staff of Wallaces' Farmer immediately after graduation.

He married Ilo Browne of Iniancla, Iowa, in 1914. Children, Henry B., aged 17, Robert B., aged 14, and Jean B., aged 12. His mother, Mrs. Henry C. Wallace, is living in Des Moines. His brother, James W., is connected with Wallaces' Farmer and Iowa Homestead; another brother, John B., is in business in St. Petersburg, Florida; a sister, Ruth, lives in Des Moines, another sister, Mrs. Angus McLay, in Detroit, and another sister, Mrs. Charles Bruggmann in Prague, Czechoslovakia.

Mr. Wallace has functioned in three major fields: (1) agricultural economics;

(2) breeding experiments, especially in corn; (3) editorial work. The first two, of course, are in a sense a part of the third.

In the field of agricultural economics, Mr. Wallace devised in 1915 the first of the corn-hog ratio charts to indicate the probable course of the market; in 1920, he published his "Agricultural Prices," an elaborate study of price making factors; during the war, and immediately after, he presented forecasts of long-time trend of prices based on experiences after the Napoleonic and Civil Wars and indicated the danger to agriculture of the coming post-war decline; he developed a system of forecasting corn yields on the basis of rainfall and temperature records; he published, in 1924, a scientific bulletin on "Correlation and Machine Calculation;" he has been a frequent speaker at meetings of economists and statisticians, serving as chairman of the Agricultural Round Table at Williamstown in 1927; and as an American delegate to the International Conference of agricultural economists in 1929; he has been prominent in the councils of farm organizations during the preparation of legislative measures dealing with the restoration of farm buying power.

In the field of experimental work in production, Mr. Wallace in 1913 began experiments toward the development of a higher yielding strain of corn. The principle of inbreeding and crossing the in-breds had been developed as a botanical experiment, but Mr. Wallace went on to apply it to the practical task of creating better yielding strains. He worked for years on this, and in 1926 was ready to test his hybrid seed in the Iowa Corn Yield Test, conducted by the Iowa State College. In that year and in every year since, his hybrids have outyielded ordinary open-pollinated corn and other hybrids also. Corn produced according to his plan is being used extensively by Iowa farmers. Paul de Kruif's "Hunger Fighters" gives a detailed account of Mr. Wallace's work in corn breeding. Mr. Wallace's own textbook, "Corn and Corn Growing," (1923) also outlines his methods. Mr. Wallace has done similar experimental work with hogs and chickens.

As an editor, Mr. Wallace has profited from his work in these other fields. His work as an economist for years made it possible for him to give an expert market advisory service to his readers; he was able to predict the crash of 1920 in editorials written the year before; he was able, in 1922, to predict that another crash was due when American loans to Europe stopped, unless the United States cut the tariff or reduced production of exportable surpluses. As an experimental worker in the field of production, he has been able to select with unusual discrimination the fruits of experimental work in general that are applicable to Corn Belt conditions.

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